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Strategic Information Systems and Digital Capability as Enablers of Digital Transformation in Indonesian Higher Education University

Ahmad Subadri[1]✉, Ikra Muhibban Ananta[2], Ishmah Afiyah[3], Mega Fitri Yani[4]
ahmadsubadri953@gmail.com[1], muhib.ikra@gmail.com[2], ishmahafiyah@gmail.com[3], megafitriyani02@gmail.com[4]
[12] Informatics, Faculty of Science and Technology, UIN Sunan Kalijaga, Yogyakarta, Indonesia
[3] Faculty of Science and Technology, UIN Sunan Kalijaga Yogyakarta, Indonesia
[4] Center of Excellence Digital Intelligent Enterprise, Telkom University, Indonesia
ORCID ID[1]: 0000-0002-2564-0499; ORCID ID[2]: 0009-0008-2079-7703; ORCID ID[3]: 0009-0000-2068-6247; ORCID ID[4]: 0009-0006-4551-447X

Abstract
Digital transformation has become an essential strategic initiative for higher education institutions seeking to improve service quality, enhance operational efficiency, and strengthen data-driven governance. Despite the increasing adoption of digital technologies, limited empirical research has examined how Strategic Information Systems (SIS) contribute to Digital Transformation through the development of Digital Capability. This study investigates the relationship between Strategic Information Systems, Digital Capability, and Digital Transformation in the higher education context. An exploratory qualitative case study was conducted at University PGRI Yogyakarta (UPY), Indonesia. Data were collected through semi-structured interviews, observations, organizational documents, and insider inquiry, and analyzed using thematic analysis. The findings reveal that Strategic Information Systems serve as key enablers by providing integrated digital infrastructure, facilitating information sharing, and supporting organizational decision-making. These capabilities strengthen Digital Capability, which subsequently drives Digital Transformation across the institution. The study also shows that Digital Capability supports process integration, continuous system enhancement, service innovation, and data-driven governance practices. Informants also reported value creation in academic and administrative services. This research contributes to the Information Systems literature by providing exploratory evidence on the role of Digital Capability in linking Strategic Information Systems with Digital Transformation. The findings offer practical guidance for university leaders and information system managers in developing integrated digital ecosystems that support long-term institutional development.

Keywords: Strategic Information Systems; Digital Capability; Digital Transformation; Higher Education; Case Study

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Corresponding Author:
Ahmad Subadri
ahmadsubadri953@gmail.com
Informatics, Faculty of Science and Technology, UIN Sunan Kalijaga, Yogyakarta, Indonesia
Jl. Marsda Adisucipto Yogyakarta 55281

INTRODUCTION
Digital transformation has become a strategic priority for organizations in adapting to rapid technological advancements and an increasingly digital environment. Technologies such as AI, Big Data Analytics, Cloud Computing, IoT, and digital platforms have reshaped how organizations create and deliver value. In higher education, digital transformation extends beyond administrative digitalization and encompasses broader changes in governance, academic activities, research, student services, and data-driven decision-making (Esteve-Mon et al., 2023; Mohamed Hashim et al., 2022). Higher education institutions are increasingly required to provide services that are more flexible, integrated, and responsive to an increasingly competitive and digitalized educational environment (Alenezi, 2021).

In supporting this transformation, Strategic Information Systems (SIS) play an important role as a strategic enabler that facilitates business process integration, cross-functional coordination, and effective information management. Strategic information systems enable organizations to establish interconnected digital ecosystems in real time, thereby improving operational efficiency, service quality, and data-driven decision-making capabilities (Nerbel & Kreutzer, 2023). In higher education institutions, SIS can be realized through the integration of academic, financial, human resource, research, and stakeholder service systems into a unified

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digital architecture. The implementation of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and Single Sign-On (SSO) has become increasingly important in supporting such integration through the concepts of a single source of truth, system interoperability, and consistent user experiences (Fernández et al., 2023; Herold et al., 2023; Siuta-Tokarska et al., 2022).

Despite increasing investments in information technology in the higher education sector, many Higher Education Institutions (HEIs) continue to face various challenges in achieving effective digital transformation. Previous studies have identified problems such as information system fragmentation, low data interoperability, limited digital infrastructure, gaps in the digital competencies of human resources, resistance to organizational change, and insufficient alignment between digital initiatives and institutional strategic objectives (Mohamed Hashim et al., 2022; Nerbel & Kreutzer, 2023; Pashkov & Pashkova, 2022). These conditions indicate that the success of digital transformation is determined not only by technology adoption but also by an organization's ability to develop and utilize digital resources sustainably. Digital capability refers to an organization's ability to develop, integrate, and strategically utilize digital technologies to support innovation, organizational adaptation, and value creation (Wang et al., 2022). The literature indicates that SIS serves as a foundation for developing digital capability by providing technological infrastructure, data integration, and support for information-based decision-making processes (Esteve-Mon et al., 2023; Franco et al., 2021; Herold et al., 2023). From the perspective of Dynamic Capability, digital capability is viewed as an organizational ability to sense, seize, and transform in response to environmental changes driven by digital technologies (Ellström et al., 2022; Leso et al., 2024; Liboni et al., 2023; Miguel et al., 2022). Organizations with strong digital capabilities tend to be better positioned to utilize strategic information systems to improve operational effectiveness, accelerate decision-making, and support organizational change on a sustainable basis (Franco et al., 2021; Liboni et al., 2023). Thus, digital capability can be regarded as a mechanism that bridges the relationship between Strategic Information Systems and successful digital transformation, consistent with the view that successful digital transformation in higher education depends on an institution's ability to sustainably integrate digital technologies into academic and administrative processes (Laufer et al., 2021; Romero et al., 2021).

Although the literature on digital transformation in higher education has developed rapidly, significant research gaps remain. Most studies focus on the adoption of specific technologies or the digitalization of learning processes without providing a comprehensive understanding of how Strategic Information Systems contribute to the development of digital capability and how such capability supports digital transformation at the organizational level (Esteve-Mon et al., 2023; Pashkov & Pashkova, 2022; Ragazou et al., 2022). Furthermore, empirical evidence explaining the relationship between Strategic Information Systems, Digital Capability, and Digital Transformation in the context of higher education, particularly in developing countries, remains relatively limited (Lustosa Rosario et al., 2021; Mohamed Hashim et al., 2022; Yu et al., 2022; Yu & Moon, 2021). This gap highlights the need for research that can explain the mechanisms through which strategic information systems build organizational digital capabilities and drive comprehensive digital transformation.

Table 1 compares this study with prior studies from Malaysia, India, and Brazil. None explains, within a single institution, how an internally developed and integrated information systems ecosystem is associated with sensing, seizing, and transforming activities; this is the novelty addressed here.

Table 1. Research Gap Matrix

Study	Context and method	Key findings	Limitation	Gap addressed here
Esteve-Mon et al. (2023); Fernández et al. (2023); Mohamed Hashim et al. (2022)	Higher education; literature reviews and a conceptual model	Strategic elements, digital transformation initiatives, and a sustainable transformation model	No institution-level evidence on how systems build capability	Case-based capability mechanism through an integrated SIS ecosystem
Wildan Zulfikar et al. (2018)	Malaysia; single case study of a born-digital university	Changes to the learning value proposition	Centered on the learning offer, not on information systems	SIS integration and in-house capability
Goarty & Gupta (2025)	India; 23 administrators, thematic analysis	Six barriers to digital transformation	Barrier-oriented; administrators only	Enabling capability; developers and users as informants
Moraes et al. (2026)	Brazil; single case, documents and 8 interviews	Advanced digital maturity; staff, budget, and infrastructure challenges	Maturity assessment; no account of capability development	How in-house development builds capability
This study	Indonesia; exploratory single case (UPY)	See Results and Discussion	See Limitations	-

To address this research gap, this study explores the relationship between Strategic Information Systems, Digital Capability, and Digital Transformation through a case study of Universitas PGRI Yogyakarta (UPY). UPY was selected because it has an internally developed and managed information system ecosystem, integrated through Single Sign-On (SSO). In addition, system development is carried out using the Scrumban approach, which enables digital development and transformation processes to be implemented iteratively and adaptively.

Based on this background, this study seeks to answer the following research questions: (1) How do Strategic Information Systems contribute to the development of Digital Capability at Universitas PGRI Yogyakarta? (2) How does Digital Capability support the Digital Transformation process in the context of higher education? and (3) How does the integration of information systems within a higher education digital ecosystem facilitate organizational transformation and improve service quality?

In line with these research questions, the objective of this study is to analyze the role of Strategic Information Systems in developing Digital Capability and to explore how such capability supports Digital Transformation in higher education institutions. This study provides several contributions. From a theoretical perspective, it applies the Dynamic Capability lens to show how an internally developed and integrated information systems ecosystem is associated with sensing, seizing, and transforming activities in a university, and it offers exploratory propositions (P1-P4) that link Strategic Information Systems, Digital Capability, and Digital Transformation and can be tested in future research. From a practical perspective, this study provides insights for higher education leaders, information system managers, and policymakers in designing integrated digital ecosystems.

Theoretical Framework

This study adopts the Dynamic Capability perspective (Teece, 2007), preferred to the Resource-Based View and to absorptive capacity and institutional theory, because it explains how capabilities are built and renewed over time rather than how valuable resources are possessed, how external knowledge is assimilated, or how institutional pressures are met (Ellström et al., 2022). Sensing (identifying needs), seizing (mobilizing resources), and transforming (renewing work practices) are mapped to the findings in Table 7. Strategic Information Systems (SIS) are systems that support and help shape organizational strategy rather than merely automating operations (Peppard & Ward, 2016). Digital Capability is the ability to develop, integrate, and strategically use digital technologies (Wang et al., 2022), and Digital Transformation is a process of significant change in an organization's properties through combinations of information, computing, communication, and connectivity technologies (Vial, 2019). Value Chain Reconfiguration adapts Porter's (1985) value chain, with Bharadwaj et al. (2013), to academic services, research, finance, human resources, and stakeholder services. Institutional Outcomes (efficiency, service quality, and data-driven decisions) are kept separate from Digital Transformation, which is the change itself, and are treated as perceived outcomes. Customer Relationship Management (Payne & Frow, 2005; Buttle & Maklan, 2019) is not a construct in Figure 1; stakeholder services such as the tracer study are treated as one dimension of Value Chain Reconfiguration.

The arrows in Figure 1 follow an enabling logic: integrated systems supply the foundations for capability (Werder & Richter, 2022), capability turns technology into changed processes and services (Wang et al., 2022), and changed processes reconnect value chain activities through shared data. Digital Capability is treated as a mediating mechanism rather than a moderator or antecedent, because in the case it is described as developed through SIS and as the means through which transformation occurs; this role is interpreted analytically and not tested statistically. Four exploratory propositions guide the analysis. P1: Integrated SIS provide the foundation for digital capability. P2: Digital capability enables digital transformation through sensing, seizing, and transforming. P3: Digital transformation is reflected in value chain reconfiguration. P4: Reconfigured activities are associated with perceived outcomes that feed back into SIS development. Scrumban is a development methodology, not a construct; it is analyzed as an emergent practice through which seizing is exercised.

RESEARCH METHODS

Research Design

This study employs a qualitative approach using a case study method to explore the relationship between Strategic Information Systems (SIS), Digital Capability, and Digital Transformation in the context of higher education. The case study approach was selected because it enables an in-depth understanding of contemporary phenomena within real-world organizational settings, particularly when the boundaries between the phenomenon under investigation and its organizational context cannot be clearly separated (Yin, 2018). The exploratory analytical framework underlying this study, whose constructs are defined in the Theoretical Framework subsection, is presented in Figure 1. It is used to structure the analysis rather than to test causal relationships.

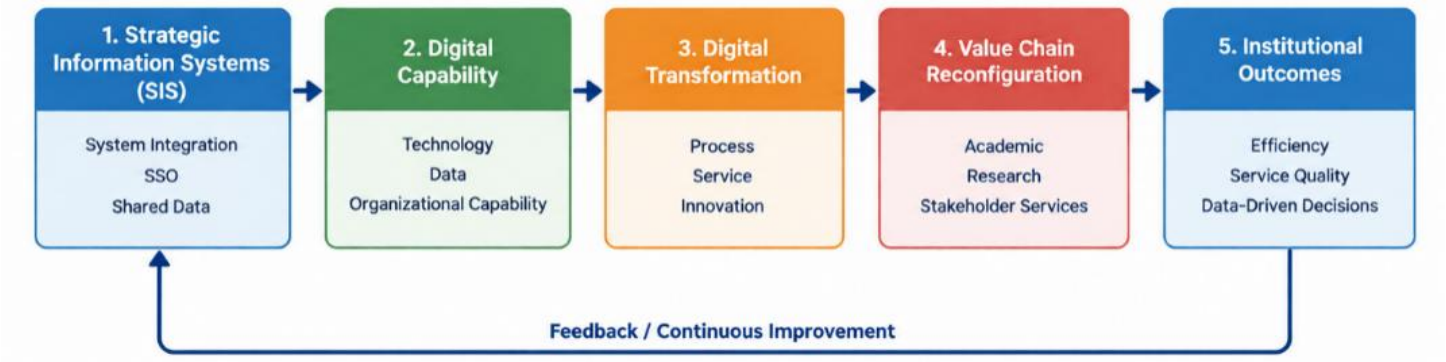


Figure 1. Exploratory Research Framework

Research Context and Case Selection

The study was conducted at Universitas PGRI Yogyakarta (UPY), a higher education institution that has developed and managed its information system ecosystem internally for more than a decade. UPY was selected because it has an integrated information system ecosystem connected through Single Sign-On (SSO), as described in the Results. The study was conducted from May to June 2026.

Data Collection

This study employed a combination of primary and secondary data. Primary data were collected through observations, semi-structured interviews, and insider inquiry. Six informants were selected using purposive sampling to represent the perspectives of system developers, academic staff, administrative staff, and end users. The selection criterion was direct involvement in developing, operating, or using at least one system of UPY's ecosystem: three developers (DEV1-DEV3), one academic staff member (AC1), one administrative staff member (AD1), and one student (EU1) (Table 2). Institutional leaders were not interviewed (see Limitations). Each interview lasted approximately 30 minutes and focused on the informants' experiences related to information system integration, digital capability development, and organizational digital transformation. In addition to interviews, the study employed an insider research approach, in which one of the researchers was a member of UPY's internal information system development team. This position provided access to system development processes, technology integration, and organizational dynamics. Data interpretations were triangulated across interviews, observations, and organizational documents and compared with relevant literature; potential insider bias is addressed in the Researcher Reflexivity subsection.

Secondary data were obtained from more than 30 organizational documents and artifacts, including system architecture documentation, SSO integration documents, system development reports, business process documentation, IT governance policies, Scrumban implementation documentation, tracer study reports, and academic and administrative documents. Data collection continued until thematic saturation was reached, indicated by the absence of significant new themes emerging from the final interview; given the small, role-based sample, saturation is understood here as saturation within the perspectives represented rather than across the whole institution.

Table 2. Interview Participants

Code	Role
DEV1	Information System Developer
DEV2	Database and Integration Developer
DEV3	System Architect and SSO Developer
AC1	Academic Staff
AD1	Administrative Staff
EU1	Student (End User)

Source: Primary data, processed (2026)

Table 3. Data Sources

Data Source	Type	Purpose
Interviews	Primary	Understanding stakeholder perspectives
Observation Notes	Primary	Understanding system usage
Insider Inquiry Records	Primary	Understanding system development processes
System Documents	Secondary	Understanding system architecture
Business Process Documents	Secondary	Understanding digital transformation
Academic Literature	Secondary	Supporting theoretical interpretation

Source: Primary and secondary data, processed (2026)

Data Analysis

The data were analyzed using thematic analysis, combining inductive and theory-driven coding. The analysis was conducted in stages through open coding, axial coding, and selective coding. In the initial stage, interview transcripts, observation notes, and organizational documents were analyzed to identify initial themes, including system integration, SSO implementation, user feedback, service efficiency, and organizational collaboration. The identified codes were subsequently grouped into broader categories corresponding to the research constructs, namely Strategic Information Systems, Digital Capability, Digital Transformation, Value Chain Reconfiguration, and Institutional Outcomes. In addition, Scrumban practice was identified as an emergent theme, and stakeholder engagement was coded as part of Value Chain Reconfiguration (stakeholder services). In the final stage, these categories were integrated into the exploratory framework to explain the relationships among the five constructs. The analysis was conducted manually using a documented coding protocol (no computer-assisted qualitative data analysis software, such as NVivo or ATLAS.ti, was used) and was iteratively verified through triangulation of interview data, observations, and organizational documents. Table 4 presents the coding structure and the source of each code. Theme frequencies are not reported because, with six role-based informants, counts would imply a statistical weight that an exploratory qualitative design cannot support; instead, every code in Table 4 is attributed to its informant or document source so that readers can trace how each theme was derived. Informant statements are reported as paraphrases attributed to informant codes rather than verbatim quotations, to protect the anonymity of a small sample whose roles are identifiable.

Table 4. Coding Structure and Audit Trail

Construct / Category	Open codes (source: informant code or documents)
Strategic Information Systems	SSO (DEV3; documents); cross-unit data consistency and reduced duplication (DEV1); data accuracy and accessibility (DEV2); API integration, shared database, and system interoperability (documents)
Digital Capability	Internal system development (DEV1, DEV2; documents); continuous system evaluation (DEV1); user feedback collection (DEV1, DEV2); development prioritized by institutional needs (DEV1); cross-unit collaboration and shared data access (AC1, AD1)
Digital Transformation	Faster and more transparent academic processes (AC1); automation of manual administrative processes (AD1); service efficiency (AC1, AD1); mobile services and notifications as suggested improvements (EU1)
Value Chain Reconfiguration	Integrated data flows replacing manual documentation (AD1); student data accessed through the integrated system (AC1); automatic payment validation, LPPM research management, and tracer study feedback (documents); stakeholder services: daily use and easier access (EU1)
Institutional Outcomes	Process efficiency (AC1, AD1); faster access to information (AC1); data-driven decision support (documents)
Emergent theme: Scrumban practice	Changing user requirements as a development challenge (DEV1); phased development oriented to user feedback (DEV1); priority setting through periodic evaluation and communication with work units (DEV2)

Note: 28 open codes; "documents" refers to system, SSO, development, and business process documents.
Source: Research data analysis (2026)

Research Trustworthiness

To enhance the quality of the research, four trustworthiness criteria proposed by Lincoln and Guba (1985) were applied.

Table 5. Trustworthiness Procedures

Criterion	Strategy
Credibility	Triangulation of interviews, observations, and documents
Dependability	Systematic coding procedures and documentation
Confirmability	Evidence-based interpretation and reflective notes
Transferability	Rich description of the organizational context

Source: Lincoln & Guba (1985), adapted

Triangulation was conducted by comparing data obtained from interviews, observations, insider inquiry, and organizational documents. This approach was intended to mitigate, but cannot eliminate, potential bias arising from the researcher's position as an insider researcher. The measures taken to manage that position are described below.

Researcher Reflexivity

One researcher (the first author) belongs to UPY's internal development team that builds the systems examined; he has served as head of information system development in the PPTIK unit for 3.5 years. This position provided access but risks favorable interpretation and socially desirable responses, particularly because three of the six informants (DEV1-DEV3) are on the same team and may have felt obliged to answer favorably to a senior colleague. To manage this, interpretations were triangulated across interviews, observations, and documents, three informants came from outside the team (AC1, AD1, EU1), and reflective notes were kept (Table 5). Residual bias is acknowledged in the Limitations.

RESULTS AND DISCUSSION

The results follow the five constructs of Figure 1, Scrumban practice and stakeholder services are reported as emergent themes, and risk management as an implication for practice.

Strategic Information Systems as a Strategic Foundation and Enabler of Digital Capability

The research findings show that Universitas PGRI Yogyakarta (UPY) has developed an integrated information systems ecosystem as the foundation for institutional digital transformation. The ecosystem consists of the Academic Information System (SIAKAD), financial system, personnel management system, research and community service system (LPPM), tracer study system, and mobile applications connected through a Single Sign-On (SSO) mechanism. DEV1 explained that system integration enables data to be used consistently across different units, reducing data duplication and improving work efficiency. Similarly, DEV2 stated that integrated systems make data more accurate and accessible to the units that need it. Meanwhile, DEV3 emphasized that SSO is an important foundation for building an integrated digital ecosystem because it allows users to access multiple services through a single account.

Table 6. Integrated Information Systems Ecosystem at UPY

System	Main Function	Strategic Role
SIAKAD	Academic administration	Integration of academic services
Financial System	Financial management	Transaction automation
Personnel Management System	Human resource management	Standardization of employee data
LPPM System	Research management	Research governance
Tracer Study	Alumni management	Stakeholder relations
SSO	Authentication integration	System interoperability

Source: Primary data, processed (2026)

From the perspective of Strategic Information Systems (SIS), the implementation of SSO functions as strategic infrastructure that supports system interoperability, data consistency, and business process integration. This is consistent with Werder & Richter (2022), who argue that information technology capabilities aligned with organizational strategy are important for developing digital capabilities. The ability of the internal team to independently develop and integrate systems demonstrates that the strategic benefits of information systems are derived not only from the technologies employed but also from the organization's ability to manage and utilize them.

Developing Digital Capability and the Emergent Role of Scrumban Practice

The implementation of integrated SIS has contributed to the development of Digital Capability at UPY. This capability is reflected in the organization's ability to independently develop, manage, and integrate various information systems through an internal development team. DEV1 explained that the team regularly evaluates the systems, collects user feedback, and develops systems based on institutional priorities. DEV2 added that user feedback is collected through user reports, discussions with work units, and periodic system evaluations.

In addition to technical capabilities, Digital Capability is also reflected in cross-unit collaboration. AC1 stated that integrated systems enable faster and more transparent access to academic data, while AD1 explained that coordination among units has improved because data can be accessed collectively. These findings indicate that Digital Capability at UPY is not solely technological but also encompasses managerial and organizational dimensions. Table 7 maps these findings to the sensing, seizing, and transforming dimensions of Dynamic Capability (Teece, 2007).

Table 7. Evidence of Digital Capability Mapped to Dynamic Capability Dimensions

Dimension	Manifestation at UPY	Supporting evidence
Sensing	Collecting user feedback through user reports, discussions with work units, and periodic evaluations; feedback through the tracer study	DEV1, DEV2; EU1
Seizing	Prioritizing and developing systems in phased, feedback-oriented cycles (Scrumban) by the internal team; integrating them through SSO and shared data	DEV1, DEV2, DEV3
Transforming	Renewing work practices through automation of manual administrative processes and integrated data flows (Table 8)	AC1, AD1

Source: Primary data, processed (2026)

Digital Transformation Practices at UPY

Digital transformation at UPY is not only realized through technology implementation but also through changes in how the organization develops and manages its information systems. The development team has adopted the Scrumban approach, which combines Scrum and Kanban principles to support iterative and adaptive system development. The interview findings indicate that changing user requirements are one of the main challenges in system development (DEV1). To address this challenge, the team applies a phased development approach oriented toward user feedback. DEV2 explained that periodic evaluations and communication with work units serve as the primary mechanisms for determining system development priorities. These findings suggest that the Digital Capability developed through SIS is reflected in digital transformation practices, one of which is the Scrumban approach.

This study shows that the Digital Capability developed through the implementation of SIS enables UPY to carry out digital transformation sustainably. This capability is reflected in the organization's ability to develop new digital services, integrate business processes, and respond more quickly to user needs through the Scrumban approach. This finding is consistent with the Dynamic Capability perspective, which emphasizes an organization's ability to sense, seize, and transform in response to changes in the digital environment (de Miguel et al., 2022). Scrumban is therefore treated in this study as an empirical practice through which the seizing dimension of Digital Capability is exercised at UPY. It is a software development methodology rather than a theoretical construct, and it is not part of the framework in Figure 1.

Value Chain Reconfiguration and Value Creation

The integration of information systems at UPY has changed the way various organizational activities are carried out. Processes that were previously separated and dependent on manual documentation are now connected through integrated data flows. The integration between SIAKAD and the financial system enables student payment validation to be performed automatically, while the LPPM system supports more structured research management. Interview findings support these changes. AD1 explained that document processing time has become faster and administrative errors have decreased following the implementation of digitalization. AC1 also stated that academic services have become more efficient because student data can be accessed through an integrated system.

Table 8. Value Chain Reconfiguration at UPY

Activity	Supporting System	Transformation Impact
Academic Services	SIAKAD + SSO	Faster academic services
Research	LPPM System	Improved research governance
Alumni	Tracer Study	Increased institutional feedback
Finance	Financial System	Transaction automation
Human Resources	Personnel Management System	Standardized personnel management

Source: Primary data, processed (2026)

One important implication of digital transformation at UPY is the reconfiguration of the value chain, as shown in Table 8. Value chain reconfiguration is thus a consequence of the organization's increased ability to utilize information in an integrated manner. Therefore, value chain reconfiguration can be viewed as one of the outcomes of the relationship between SIS, Digital Capability, and Digital Transformation.

Institutional Outcomes and Institutional Value Creation

This study did not measure competitive advantage or competitive performance, and no comparative or benchmark data were collected. The findings are therefore interpreted as institutional value creation as reported by informants, not as evidence of competitiveness. Informants reported that the integration of digital services

improves process efficiency, accelerates access to information, and supports data-driven decision-making. This finding supports the view that the strategic benefits of technology do not arise directly from information system implementation but through the development of Digital Capability that enables organizations to create value sustainably. Thus, Digital Capability can be viewed as a mechanism linking technology investments to perceived improvements in institutional outcomes, a relationship that should be tested with performance indicators in future research.

Stakeholder Services and User Experience

Stakeholder services, including the tracer study and the digital services through which the institution interacts with students and alumni, are treated here as one dimension of Value Chain Reconfiguration rather than as a separate construct (Payne & Frow, 2005); the evidence comes mainly from one informant (EU1) and is tentative. The Customer Relationship Management (CRM) function at UPY is realized through the tracer study system and digital services that support interactions with students and alumni. From the end-user perspective, EU1 stated that information systems are used almost every day for various academic activities, such as course registration, viewing class schedules, and accessing grades. In addition, EU1 suggested developing notification features and mobile services as improvements to the user experience.

The integration of digital services through SSO and mobile applications strengthens the engagement of students and alumni as key stakeholders. These findings suggest that information systems not only support internal organizational processes but also improve service quality, user experience, and the institution's relationships with its stakeholders.

Implications for Practice: Risk Management and Sustainability of Digital Transformation

This subsection reflects the authors' interpretation rather than interview data. Digital transformation also introduces challenges that need to be managed continuously. In the context of UPY, the use of integrated systems requires risk management covering data security, system reliability, and the continuity of digital services, which can be guided by IT governance frameworks such as COBIT 2019 (ISACA, 2018) and ISO/IEC 38500 (ISO/IEC, 2015). This suggests that the success of digital transformation depends not only on technology implementation but also on the organization's ability to manage risks and ensure the sustainability of the digital ecosystem that has been established.

Theoretical Implications

The findings are consistent with, and reinforce, the Dynamic Capability framework (Teece, 2007) in a higher education setting: sensing, seizing, and transforming are each identifiable (Table 7). Sensing and seizing are carried out largely through an in-house ecosystem, so capability resides in the team's routines rather than in acquired technology. As a single exploratory case, the findings illustrate rather than test or challenge the framework. Unlike the barriers reported in India (Goarty & Gupta, 2025) or the staff and budget shortages in a Brazilian federal institution that partly contracts companies to build systems (Moraes et al., 2026), UPY informants described an in-house team that develops and integrates the systems. This suggests, without generalizing, that in-house development may build capability and reduce vendor dependence.

CONCLUSIONS AND SUGGESTIONS

Conclusions

The implementation of Strategic Information Systems (SIS) at Universitas PGRI Yogyakarta demonstrates that an integrated information systems ecosystem consisting of SIAKAD, the financial system, personnel management system, LPPM system, Tracer Study, and Single Sign-On (SSO) architecture can serve as a strategic foundation for developing organizational digital capabilities. These capabilities subsequently support sustainable digital transformation (with Scrumban as the agile practice observed in the case), facilitate business process integration, and enable value chain reconfiguration that is reported by informants to improve operational efficiency and service quality and to contribute to institutional value creation. The empirical findings provide exploratory support for the analytical framework linking Strategic Information Systems, Digital Capability, Digital Transformation, value chain reconfiguration, and institutional outcomes. The results suggest that the contribution of information systems to institutional outcomes does not occur directly, but rather through the development of digital capabilities and organizational transformation processes that enable sustainable value creation. One important finding is the role of internal capabilities in determining the success of digital transformation. In-house system development enables the organization to build contextual technical competencies and institutional knowledge, increase flexibility in responding to change, and reduce dependence on external vendors.

Limitations

This study has limitations. It is a single case with six informants, three of them developers; institutional leaders (rector, ICT head, deans) were not interviewed, so the strategic perspective is captured only through documents, and the findings and framework are exploratory. The researcher's insider position and overlap with three informants may have shaped interpretation despite the measures described. Evidence on stakeholder services rests mainly on one informant, and risk management is an implication rather than a finding. No competitive performance or comparative data (rankings, accreditation, enrollment, satisfaction surveys) were collected, so competitiveness claims are outside the scope of this study. Data were collected over a short period (May to June 2026).

Suggestion

From a theoretical perspective, these findings contribute to the literature on Strategic Information Systems and digital transformation by illustrating, through the Dynamic Capability lens (Teece, 2007), how an internally developed and integrated information systems ecosystem is associated with sensing, seizing, and transforming activities, and by offering exploratory propositions (P1-P4) for future testing. From a practical perspective, higher education institutions seeking to develop an integrated digital ecosystem are encouraged to strengthen internal capabilities, continuously develop their information systems, and implement adaptive digital governance. Future research is recommended to expand the research context through comparative studies across higher education institutions or to examine the relationships among the constructs in the proposed exploratory framework using quantitative approaches to obtain broader validation. Future studies should include institutional leaders and performance indicators before testing any claim regarding competitiveness.

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